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## A study on vaginal birth after caesarean section in a tertiary care center in northern Andhra Pradesh

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### Abstract

**Background:** An increasing proportion of pregnant women attending for care have had a previous cesarean and face the question of the mode of delivery. These women are at increased risk of complications compared with other women. The primary choice for women in this situation is whether to have a repeat cesarean section or to attempt a vaginal birth. Both repeat C-section and VBAC have inherent risks for the mother and the baby. The rule of "Once a Caesarean section, forever a Caesarean" is more. However, a series of studies in the 1980s reported the relative safety of attempting vaginal birth following the Caesarean delivery (VBAC). The new rule should be "Once a Caesarean, Always a Hospital Delivery and Trial of labor." Women considering their options for birth after a single previous cesarean should be informed that, overall, the chances of successful planned VBAC are 72-78%. The main aim of this study is to determine the success rate of the Trial of Labour after Cesarean Section (TOLAC).

**Methods:** The present study comprises 400 cases of pregnant women with a history of prior cesarean section, admitted in the department of Obstetrics and Gynaecology, Great Eastern Medical School & Hospital, Srikakulam. The study was conducted during the period from February 2017 to February 2018 after obtaining IEC approval.

**Results:** Of the 400 women who were studied, 324 underwent a trial of labor after cesarean section (TOLAC). Of these 324 women, 253 had a successful VBAC yielding a success rate of 78.1%.

**Conclusion:** It is evident from the results that Trial of labor after cesarean section should be an important option since there is a very high chance of successful vaginal birth following the Caesarean delivery.

**Keywords:** Trial of Labour after Caesarean Section (TOLAC), Vaginal Birth after Caesarean Section (VBAC), Elective Repeat Caesarean Section (ERCS), Lower Segment Caesarean Section (LSCS), Delivery

**Keywords:** VBAC, trial of labour, caesarean section

### Introduction

The progressive increase in frequency of Caesarean Delivery is definitely one of the most important developments in the last few years. The safety of lower uterine segment technique, the improvement in anesthetic techniques, the availability of blood products and antibiotics, the widening of indication for the operation, the recognition of foetus as a patient, small family norms, and the acceptance of this all various factors that have contributed to the rise in the incidence of Caesarean births over the past 50 years<sup>[1]</sup>.

Rates of primary Caesarean sections have increased dramatically since the 1980's. Thus, an increasing proportion of pregnant women have had a previous caesarean and face the dilemma of mode of delivery. They are at increased risk of complication compared with other women.

The rule of "Once a Caesarean section, forever a Caesarean" is more. However, a series of studies in the 1980's reported the relative safety of attempting vaginal birth following the Caesarean delivery (VBAC)<sup>[2]</sup>. The new rule should be "Once a Caesarean, Always a Hospital Delivery and Trial of labour." However, the choice between Elective Repeat Caesarean Section (ERCS) and VBAC involves a balance of pros and cons<sup>[3]</sup>. Women with previous caesarean section should be offered all options for delivery after thorough clinical assessment and antenatal counselling and the decision to attempt a trial of labour could be made.

### Aims

To determine the success rate of Trial of Labour after Cesarean Section (TOLAC)

To determine the effect of the indication of Previous Cesarean Section on outcome of pregnancy

To analyse the major causes of failed TOLAC.

## Material and Method

The present study comprises 400 cases of pregnant women with history of prior caesarean section, admitted in the department of Obstetrics and Gynecology, Great Eastern Medical School & Hospital, Srikakulam. The study was conducted during the period from February 2017 to February 2018.

These patients were grouped as follows

- Those who can be permitted trial of labour.
- Those requiring elective repeat caesarean section.

**Inclusion criteria for TOLAC group:** The patients who are permitted a trial of labour include those with history of previous single lower segment transverse caesarean section for non-recurrent indication. They should be single, live pregnancy with vertex presentation, presenting at term. They should not have any contraindication for vaginal delivery and with spontaneous onset of labour.

**Inclusion criteria for ERCS Group** [4, 5]: Previous LSCS with recurrent indication or with obstetric or medical complication.

In the study, scar dehiscence and rupture uterus is taken as a single maternal outcome.

After taking informed consent, the patients were monitored carefully and partograph was plotted [6] Obstetric analgesia was not given to any of these. Chi square test was used for statistical evaluation of the points leading to a successful VBAC.

The patients were monitored closely for postpartum complications like puerperal sepsis, pyrexia, PPH, urinary

retention and the need for obstetrics hysterectomy. Fetal wellbeing was also assessed.

Outcomes were compared between the group of patients who underwent trial of labour after caesarean section and those which underwent elective repeat caesarean section. The former was also compared with those who had failed trial of labour after caesarean section (Emergency LSCS).

## Observation and Discussion

**Table 1:** Overview of the Study

Total Number of Women in the Study	TOLAC	ERCS
400	324	76

In this study, 324 women with single previous lower segment caesarean section underwent trial of Labour.

**Table 2:** Overview of the Study

TOLAC	VBAC	Emergency LSCS ( Failed TOLAC)
324	253	71

Out of 324 patients, who were given trial of labour, 253 patients delivered vaginally while in 71 patients trial had to undergo caesarean section.

NICHD study reported a 73% (70-75%) VBAC labor success rate in women with previous one lower segment caesarean section who attempted trial of labour [7]. In our study, aVBAC success rate of 78.1% was observed.

**Table 3:** Indications of Previous CS

	Indications of Previous CS	VBAC (n=253)	Emergency LSCS (n=71)	Elective LSCS (n=76)
1	Fetal Distress	72	28	5
2	NPOL (Non Progress of Labour)	55	15	18
3	Mal presentation	94	9	9
4	CPD (Cephalo Pelvic Disproportion)	-	-	21
5	Post Date	-	3	4
6	Hypertensive Disorder	12	8	3
7	Oligohydraminos	16	5	8
8	Placenta Previa	-	2	-
9	Abruptio	-	-	2
10	Cord Around Neck	4	1	1
11	Precious Pregnancy	-	-	3
12	Primi Twins	-	-	2

**Table 4:** Result of trial of labour in previous CS Cases

	Indication of Previous CS	No of Patients given Trial	Successful Vaginal Delivery	Percentage (%)	EMLSCS	Percentage
1.	Fetal Distress	100	78	78.00%	22	22.00%
2.	NPOL	70	52	74.28%	18	25.71%
3.	Mal presentation	103	84	81.55%	19	18.44%
4.	Post Date	3	2	66.66%	1	33.33%
5.	Hypertensive Disorder	20	15	75.00%	5	25.00%
6.	Oligohydroamnios	21	17	80.95%	4	19.04%
7.	Cord Around Neck	5	4	80.00%	1	20.00%
8.	Placenta Previa	2	1	50.00%	1	50.00%
	Total	324	253	-	71	-

In the above given table, it is observed that patients with prior LSCS for Mal presentation had the maximum rate of successful VBAC, followed by those, prior LSCS for cord around neck and patients with prior LSCS for fetal distress.

Prior caesarean delivery for a breech (mal presentation) presentation is associated with highest reported success rate

according to a study by Coughlan *et al.* [8].

Dr. A. N. Gupta *et al.* [9] PGI Chandigarh, 1986 concurred on the main indication of repeat caesarean section in cases in which trial was not successful was the fetal distress even when it was ruled out before trial was started which is not observed in our study.

A study carried out by Iyer<sup>[9]</sup> on 318 women mentioned that there are more chances of VBAC in women with history of previous vaginal delivery compared to ones without. A similar finding is observed in our study.

### Summary

Of the 400 women who were studied, 324 underwent trial of labour after caesarean section (TOLAC). Of these 324 women, 253 had a successful VBAC yielding a success rate of 78.1%. Most of the patients with non-recurrent indications of previous caesarean section underwent TOLAC successfully. Of these, patients with prior LSCS for Mal presentation had the highest rate of successful VBAC, followed by those with prior LSCS for cord around neck, followed by those with prior LSCS for fetal distress and by those with Non Progress of Labour. The commonest cause of failed trial was seen with Non Progress of Labour in our study.

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